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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/735,188  
Filing Date: December 12, 2003  
Appellant(s): STAMATAS ET AL.

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Joel A. Rothfus  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed January 24, 2011 appealing from the Office action mailed September 29, 2010.

**(1) Real Party in Interest**

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

**(2) Related Appeals and Interferences**

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

US Application 10/986,941

**(3) Status of Claims**

The following is a list of claims that are rejected and pending in the application:

Claims 11-20

**(4) Status of Amendments After Final**

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

**(5) Summary of Claimed Subject Matter**

The examiner has no comment on the summary of claimed subject matter contained in the brief.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN REJECTIONS." New grounds of rejection (if any) are provided under the subheading "NEW GROUNDS OF REJECTION."

**(7) Claims Appendix**

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

**(8) Evidence Relied Upon**

2002/0016534	TREPAGNIER et al.	2-2002
4,894,547	LEFFELL et al.	1-1990

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 11-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Trepagnier (US 2002/0016534 A1) in view of Leffell (US 4,894,547).

Trepagnier teaches a method of determining the effect of a treatment to the skin of a subject by measuring factors that assess changes of structural matrix of the skin, cells of skin, and other cellular components reflective of metabolic activity (cellular components reflective of the health of the skin) such as tryptophan and NADH (paragraph 0057, 0058, 0116). To measure tryptophan and NADH respectively, Trepagnier teaches directing light in the about 295 nm range causing the skin to fluoresce at approximately 345 nm, and directing light in the about 370 nm range causing the skin to fluoresce at approximately 420-520 nm (paragraph 0057) (exposing at about 295 nm and about 390-410 nm and measuring at about 340 nm and 440 nm) and calculating relative peak ratios from the measured fluorescence (paragraph 0058, 0126). The results can then be compared to measurements of developed standards or surrounding normal tissue for use in measuring treatment related changes (paragraph 0116). Trepagnier does not explicitly disclose the particulars of how to perform this method of measuring treatment related change. In the same field of endeavor of exposing skin to ultraviolet light and measuring the fluorescence, Leffell discloses directing light at predetermined ultraviolet wavelength ranges at sun-exposed skin such as the forehead (skin having undergone treatment), measuring fluorescence emitted, and creating a ratio of the measured fluorescent intensities. This ratio is then compared to a ratio of the fluorescent intensity that is induced from directing light at a predetermined ultraviolet wavelength at non-sun-exposed skin such as the buttocks (skin not exposed to the treatment). By comparing the ratios one can determine the effect of the sun has on

the skin (effect of skin treatment) (col. 2 line 15-20, col. 2 line 53-68, col. 4 line 56-60). Leffell also further discloses that besides sun exposed skin, his invention can be used to monitor improvement in skin relating to treatment (col. 9 line 15-25). In order to monitor improvement in skin it would be obvious that one must monitor the same area in order to be able to tell how the skin improves over time. It would have been obvious to one skilled in the art at the time of the invention to create a ratio of measured fluorescent intensities as taught by Leffell with the measured fluorescent intensities of tryptophan and NADH as taught by Trepagnier for the purpose of creating relative peak ratios to analyze changes of structural matrix of the skin, cells of skin, and other cellular components reflective of metabolic activity (paragraph 0122-0123 of Trepagnier).

#### **(10) Response to Argument**

The examiner respectfully disagrees with the applicant's arguments that Trepagnier in view of Leffell does not claim the invention as claimed. Although the focus of the Trepagnier reference may be on measuring blood glucose levels, Trepagnier also discloses that the invention can be used for other purposes such as measuring factors that assess changes of structural matrix of the skin, cells of skin, and other cellular components reflective of metabolic activity due to a variety of conditions including the presence of topical chemicals such as steroids (a treatment) (paragraph 0116 line 1-9) and in particular that the invention can be used for assessing treatment related changes and drug concentration monitoring (paragraph 0116 lines 20-21). For measuring changes of structural matrix of the skin, Trepagnier discloses measuring fluorescence excited at about 370 nm (paragraph 0121 lines 1-4), using a wavelength suitable for exciting tryptophan

(paragraph 0121 line 13-15), and a means for measuring fluorescence by calculating relative peak ratios (paragraph 0123). Exciting at a wavelength of about 370 (claim 11(iii), a second exposure radiation from about 330 nm to about 420 nm) induces fluorescence in the range of about 400 nm to about 550 nm (claim 11(iv), a second fluorescent emission from about 380 nm to about 470 nm) for measuring NADH (paragraph 0057 line 27-32). To measure tryptophan an excitation wavelength of 295 nm is used (claim 11(i), a first exposure radiation from about 290 nm to about 300 nm) to induce fluorescence in the range of 345 nm (claim 11(ii), first fluorescent emission from about 320 nm to about 350 nm) (paragraph 0057 line 21-26). Although the applicant may argue that these citations to these wavelengths are within the glucose-monitoring embodiments, these excitation wavelengths and their induced fluorescence emissions are a property of the target molecules and are not specific to only the glucose-monitoring embodiment.

As to the applicant's arguments that nowhere in the reference does the Leffell patent define a treatment as a skin care composition containing active ingredients for wrinkle reduction, the examiner would like to point out that nowhere in the claims does the applicant define that a treatment is a skin care composition containing active ingredients for wrinkle reduction. Just as Trepagnier discloses that their invention can be used to assess treatment related change in the skin, Leffell also fulfills the claim limitations of determining the effect of a treatment to the skin of a subject as Leffell discloses their invention can be used to assess treatment related change in the skin (col. 9 line 21-24). Again, although one embodiment of Leffell is to use their invention to evaluate skin pigmentation, Leffell discloses that their invention can have other uses such as for quantifying changes that result from UV exposure, measuring the ageing of skin, and

assessing improvement in skin relating to treatment (col. 1 line 60-col. 2 line 4, col. 9 line 21-24) so therefore does not teach away from the applicant's invention. Furthermore the applicant has not claimed canceling the effects of skin pigmentation.

In view of above, it is therefore believed that Trepagnier in view of Leffell discloses the claimed invention as recited in claims 11-20 and it is respectfully submitted that the current rejections of the record be sustained.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Jacqueline Cheng

/Jacqueline Cheng/

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